

20000709.ba v02_n942.bam.20000709

>From ???@??? Sun Jul 9 01:35:36 2000 -0500
Message-Id: <200007090633.e696Xqc08921@sco.theporch.com>
Date: Sun, 9 Jul 2000 01:33:10 CDT
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 2942

BOATANCHORS Digest 2942

Topics covered in this issue include:

- 1) Tell me about your experience with the Johnson Invader transmitter.
by "Jim Zellmer" <zellmer@raccoon.com>
- 2) RE: Army Training Manual Sought
by "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
- 3) Tr: Tr: Identify Kon-Tiki LI2B transmitter , Follow-up
by =?iso-8859-1?Q?Andr=E9_Guibert?= <aguibert@sympatico.ca>
- 4) Re: 6L7 as IF tube
by "Hue Miller" <kargokult@proaxis.com>
- 5) Re: Tr: Identify Kon-Tiki LI2B transmitter , Follow-up
by "Hue Miller" <kargokult@proaxis.com>
- 6) Re: Tr: Identify Kon-Tiki LI2B transmitter , Follow-up
by "Hue Miller" <kargokult@proaxis.com>
- 7) WS52 mod problem
by BEN NOCK <G4BXD@compuserve.com>
- 8) 6L7 as IF tube
by "Robert G. Flory" <RobandPJ@compuserve.com>
- 9) WTB: 75S-3B or C
by Tom Norris <badger@telalink.net>
- 10) Re: 6L7 as IF tube
by Al Klase <skywaves@bw.webex.net>
- 11) Bogen D070 amp
by "Joseph W. Pinner" <kc5ijd@sprintmail.com>
- 12) Re: 6L7 as IF tube
by Al Klase <skywaves@bw.webex.net>
- 13) Re: 6L7 as IF tube
by Bob Roehrig <broehrig@admin.aurora.edu>
- 14) CU-1280/FRD-10A (V) info wanted
by "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
- 15) 75A1 question
by john <johnmb@mindspring.com>
- 16) Security
by James Hanlon <knjhanlon@uswest.net>
- 17) Re: 6L7 as IF tube
by Arden Allen <gumbear@pacbell.net>
- 18) WTB: KY-468 Keyer

by Al Klase <skywaves@bw.webex.net>
19) Gainesville (GA) hamfest
by thompson@mindspring.com
20) Re: 6L7 as IF tube
by john <johnmb@mindspring.com>
21) Re: Spinners
by Jderm740@aol.com
22) Re: 75A1 question
by Joe Eide <jeide@execpc.com>
23) WTT: Bird 43 Elements
by JONWEINER@aol.com
24) [Fwd: Take a Look]
by David Knepper <knepper@lenzlink.net>
25) Product Detector for SX-110 -- Chapter I
by Arden Allen <gumbear@pacbell.net>

Message-ID: <001f01bfe866\$dc561340\$b54bead1@raccoon.com>
From: "Jim Zellmer" <zellmer@raccoon.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Tell me about your experience with the Johnson Invader transmitter.
Date: Fri, 7 Jul 2000 17:57:55 -0500
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

GE OM

Haven't seen much traffic on the Johnson list lately, but thought maybe I could generate some with the following question;

How many of you folks have had the opportunity to twist the knobs or dig into the innards of a Johnson Invader 2000 or 200?
Have any of you ever tamed the drifty VFO, if yours was?
Has anyone ever found a small hearing aid tube (small pencil sized tube with hook up wires coming out the bottom of the tube in place of the pins) underneath the VFO?
Let me know about your experiences and opinions. I will summerize the results and forward them as requested.

You can see a picture of mine in the Johnson Room of the KA0VSL Virtual Museum of Thermonic Emitters and Vitage Digital Communciation Devices:
<http://www.heartlandia.com/personal/ka0vsl/temhome.htm>

Nice of gear. Need to get the SX-115 back on line to set up the best of the best station.

73.

Jim Zellmer, KA0VSL

----- Original Message -----

From: John W. King <jbkking@bellsouth.net>

To: <johnson@qth.net>

Sent: Friday, July 07, 2000 7:41 AM

Subject: [Johnson] test

> test

>

>

>

> ---

> Submissions johnson@qth.net

Date: Fri, 7 Jul 2000 19:14:49 -0400

From: "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>

Subject: RE: Army Training Manual Sought

To: Old Tube Radios <boatanchors@theporch.com>

Message-ID: <200007071914_MC2-AB79-2CAE@compuserve.com>

MIME-Version: 1.0

Content-Transfer-Encoding: quoted-printable

Content-Type: text/plain;

charset=ISO-8859-1

Content-Disposition: inline

Andy,

I assume that the manual that you have is TM 11-678. I'm not sure that it

is the one that you are looking for but TM 11-679 is "Fundamentals of Carrier and Repeater (Telephone and Telegraph/TTY)". I have most of the = TM

11-6xx and I think the numbers of the rest, and none of the other titles = in

this range are even close.

Message text written by Old Tube Radios

>I recently acquired the US Army training manual 'Fundamentals of =

Telephony' and am told there's another TM devoted to automatic (dial) =

telephony alone.

Does anyone know this one? I need the TM number in order to try and find =
a copy to buy.
<

Robert Downs
WA5CAB
Houston

Message-ID: <001401bfe872\$8c10f2e0\$4815fea9@b1yhpg64>
From: =?iso-8859-1?Q?Andr=E9_Guibert?= <aguibert@sympatico.ca>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Tr: Tr: Identify Kon-Tiki LI2B transmitter , Follow-up
Date: Fri, 7 Jul 2000 20:20:04 -0400
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Bonsoir Dave and All
Mine is a pressed cardboard type, dark grey, read they
were collected from refugees coming to England during WW2.
There are four steel boxes, one for txr, one for the recr, one for
P\S, one for the spare tubes,crystals, coils, power leads(One for
AC, one for 6vdc),
headphones and key.
Usually fed from the mains but in case of lights dimming or
selective cutting of power
during transmissions, the AC\DC plug was reversed and the message
could still be
carried out.
The Germans had three listening stations equipped with 30 panoramic
receivers each
covering from a few kcs to 30 megs, the pianist would expect a door
busting after
transmitting for more than 15min.
Messages more than a few minutes and using the same location would
lead tothe
downfall of the "pianist".
Have an almost complete station except for the revolver and the "L"
pill.
Andre

Message-ID: <002301bfe8ab\$cf864c80\$3503fea9@oemcomputer>

From: "Hue Miller" <kargokult@proaxis.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: 6L7 as IF tube
Date: Sat, 8 Jul 2000 00:11:58 -0700
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Subject: Re: 6L7 as IF tube

| The 6L7 was often used as a RF (somewhat noisy) or IF tube because it
| has a much smaller plate/grid capacity than most pentodes and so makes a
| very stable amplifier. It is not prone to tuned plate/ tuned grid
| oscillations.

Howsoever:

1) i would take issue with "often". How many commercial sets or
project articles, apart from the 2 we have mentioned, went this way?
2) IF or RF oscillation doesn't seem to have been a large issue
still needing solving, once pentode vacuum tubes were on the scene.
3) (it seems to me) this idea did not persevere beyond a short
infatuation right after the introduction of the 6L7 tube.
references: Marty's set, my manual for NC-44, article in a Meissner (??)
book on "the new mixer tubes", ca 1938. - sorry, cannot come up
with exact citation right now.
Hue

Message-ID: <003201bfe8ad\$15451b60\$3503fea9@oemcomputer>
From: "Hue Miller" <kargokult@proaxis.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Tr: Identify Kon-Tiki LI2B transmitter , Follow-up
Date: Sat, 8 Jul 2000 00:21:05 -0700
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 8bit

----- Original Message -----

From: Andr  Guibert <aguibert@sympatico.ca>
| The Germans had three listening stations equipped with 30
panoramic
| receivers each
| covering from a few kcs to 30 megs, the pianist would expect a

door
| busting after
| transmitting for more than 15min.

Well.....not quite that simple.....

Still required getting out the van, with mobile equipment, and driving around. In old European city traffic and road conditions. With observers usually working with the radio team. Not 15 minutes on the first time from this one new location. Keep it short, and/ or move frequently.

BTW, the Soviet's "Red Chorus", operating radio from Switzerland, was notorious for staying on the air for hours, they had such a high volume of good info to send ! Swiss probably less motivated than Nazis to squelch such operation, as not directly a threat to them, but they did finally "roll it up".

Hue Miller

Message-ID: <004b01bfe8ae\$29a50f60\$3503fea9@oemcomputer>
From: "Hue Miller" <kargokult@proaxis.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Tr: Identify Kon-Tiki LI2B transmitter , Follow-up
Date: Sat, 8 Jul 2000 00:28:48 -0700
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

| The 'Type three Mark two' sees quite a bit of believable action in the
| book, and the careless use of the radio is the cause of the agent's
| capture...
| He neglects to change freqs every couple of minutes, the VOPOs home in
| on his signal and determine which building he's in| Dave Ross N7EPI

I'm thinking that after the "Golden Years of Spy Radio", (i.e. WW2), detection technology pretty well outran common spy radio technique, so if you were still using the radio (riskier than other methods), and not using burst modes or UHF, you were pretty much in for a spell of bad fortune.

Hue Miller

Date: Sat, 8 Jul 2000 05:22:08 -0400
From: BEN NOCK <G4BXD@compuserve.com>
Subject: WS52 mod problem
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <200007080522_MC2-AB7F-5699@compuserve.com>

MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain;
charset=ISO-8859-1
Content-Disposition: inline

I have my 52 set tx working, 110w out on cw. On am though its not too good,
quality wise, not power wise. I have monitored the actual mod audio, there
is a low winding on the mod tranny so this can easily be done, and it
seems fine, a bit narrow but thats the military way. But when applied to
the carrier, the set uses control grid mod, the secondary of the mod tranny
is in series with the neg bias on the g1 of the 813, the quality of the
recovered audio is not as good as what the mod is actually producing. The
neg bias level is fine, as are
all the other voltages. =

I have noticed the pa loading does affect the mod depth and quality but
even adjusted for best audio out it is still not 100%. If the grid
decoupling cap was leaky I wonder if this would affect the quality ? Maybe
the sec winding of the mod tranny is u/s, but then I would expect nothing
at all ?

As many of these sets have the same basic operation for am I wonder if
anyone has had similar experience and devised a solution.

cheers, Ben G4BXD

Date: Sat, 8 Jul 2000 05:44:36 -0400
From: "Robert G. Flory" <RobandPJ@compuserve.com>
Subject: 6L7 as IF tube
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <200007080544_MC2-AB7D-FCB3@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain;
charset=ISO-8859-1
Content-Disposition: inline

Someone asked, "How many commercial sets....."

My Breting 14 of 1936(according to Raymond Moore book) vintage has a 6L7 =
as
the 2nd(and final) IF amp. The grid is in parallel with a 6K7 which is t=
he
noise blanker amp. The 1st IF amp is a 6K7.

Rob Flory

Message-Id: <4.2.2.20000708065622.00c1b4c0@mail1.telalink.net>
Date: Sat, 08 Jul 2000 06:57:26 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: Tom Norris <badger@telalink.net>
Subject: WTB: 75S-3B or C
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Subject says it all.

Tom KA4RKT
Manchester, TN

Message-ID: <39672893.BE1590DE@bw.webex.net>
Date: Sat, 08 Jul 2000 09:11:47 -0400
From: Al Klase <skywaves@bw.webex.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
CC: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: 6L7 as IF tube
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

"Robert G. Flory" wrote:

> My Breting 14 of 1936(according to Raymond Moore book) vintage has a 6L7 as
> the 2nd(and final) IF amp. The grid is in parallel with a 6K7 which is the
> noise blanker amp. The 1st IF amp is a 6K7.

This is the classic Lamb "Noise Silencer". The 6K7 feeds a
6H6 that developes blanking pulses that are applied to the
6L7 in the IF signal path. This appears in a number of late
1930's receivers, either as a dedicated part of the circuit
or as an opttion as in the RME-69. Breting 14 schematic is
in Rider's volume VII.

73,
Al

--

Al Klase - N3FRQ
skywaves@bw.webex.net
Flemington, NJ 08822
Web Page: <http://www.webex.net/~skywaves/home.htm>

Message-Id: <200007081354.GAA11097@magpie.a001.sprintmail.com>
Subject: Bogen D070 amp
Date: Sat, 8 Jul 2000 09:54:48 -0400
From: "Joseph W. Pinner" <kc5ijjd@sprintmail.com>
To: Old Tube Radios <boatanchors@theporch.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

I know that this is a mite bit off topic (but it is heavy and does use tubes), but does anyone know where I can secure info on a Bogen D070 audio amp?

73

Joseph W Pinner +
Kingston, TN
KC5IJD / NNN0PHR
EMail: kc5ijjd@sprintmail.com

Message-ID: <39673709.27ACFF54@bw.webex.net>
Date: Sat, 08 Jul 2000 10:13:29 -0400
From: Al Klase <skywaves@bw.webex.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: 6L7 as IF tube
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Al Klase wrote:

>
>.... Breting 14 schematic is
> in Rider's volume VII.

Make thet Volume VIII,

Al

> --
> Al Klase - N3FRQ
> skywaves@bw.webex.net
> Flemington, NJ 08822
> Web Page: <http://www.webex.net/~skywaves/home.htm>

--
Al Klase - N3FRQ
skywaves@bw.webex.net
Flemington, NJ 08822
Web Page: <http://www.webex.net/~skywaves/home.htm>

Date: Sat, 8 Jul 2000 10:41:38 -0500 (CDT)
From: Bob Roehrig <broehrig@admin.aurora.edu>
To: Old Tube Radios <boatanchors@theporch.com>
cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: 6L7 as IF tube
Message-ID: <Pine.OSF.3.96.1000708104107.14777A-100000@admin.aurora.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Sat, 8 Jul 2000, Robert G. Flory wrote:

> Someone asked, "How many commercial sets....."
>

The Hallicrafter SX-28 uses a 6L7 in the 1st IF.

"Nostalgia is a thing of the past"
E-mail: broehrig@admin.aurora.edu or k9eui@arrl.net 73 de Bob, K9EUI
CIS: Data / Telecom Aurora University, Aurora, IL
630-844-4898 Fax 630-844-4222
PLEASE PUT ALL REPLIES IN ASCII TEXT ONLY

Date: Sat, 8 Jul 2000 11:47:10 -0400
From: "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
Subject: CU-1280/FRD-10A (V) info wanted
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <200007081147_MC2-AB8A-85C8@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain;
charset=ISO-8859-1
Content-Disposition: inline

Groups,

I thought that I would check one more time to see whether any of you who seem to have these couplers have come up with any TM's before returning to he Florida guy's postcard. Has anything turned up since the last time that I asked?

Robert Downs
WA5CAB
Houston

Message-Id: <3.0.3.32.20000708123655.00d5bb84@mindspring.com>
Date: Sat, 08 Jul 2000 12:36:55 -0400
To: Old Tube Radios <boatanchors@theporch.com>
From: john <johnmb@mindspring.com>
Subject: 75A1 question
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Does anyone know if the 75A1 has the finger shield on the right side of the cabinet (as viewed from the front.)? This is the little metal stamping that prevents sticking your fingers in past where they should be. I can see that it's essential on my 32V2 (now working fine, thanks to all your suggestions) in keeping ones fingers out of the plate cap of the 807' modulators.

My A1 does not have one on the right side. Wonder if it came with one?

73
John

John Brewer - WB50AU/4
AMI #24
Clayton NC
johnmb@mindspring.com

Message-ID: <39676111.78E80419@uswest.net>
Date: Sat, 08 Jul 2000 11:12:50 -0600
From: James Hanlon <knjhanlon@uswest.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Security
Content-Type: text/plain; charset=us-ascii

Content-Transfer-Encoding: 7bit

FYI to the list members. After having our home broken into for the second time in 10 years we decided to install a Brinks home security system. (No, none of my BA's were stolen, thank heaven!) I just tried out my best transmitters on all bands from 80 through 10 and none of them made the system, running in its disabled mode, malfunction. I figure I won't be on the air when it is in enabled mode.

Jim, W8KGI

Date: Sat, 08 Jul 2000 10:25:57 -0700
From: Arden Allen <gumbear@pacbell.net>
Subject: Re: 6L7 as IF tube
To: Old Tube Radios <boatanchors@theporch.com>
Cc: Old Tube Radios <boatanchors@theporch.com>
Message-id: <0FXE00E9X31MKY@mta5.snfc21.pbi.net>
MIME-version: 1.0
Content-type: text/plain; charset=ISO-8859-1
Content-transfer-encoding: 7bit

> The Hallicrafter SX-28 uses a 6L7 in the 1st IF.

Where it functions as a noise limiter as in the other receivers mentioned. Whereas the Lamb Noise Silencer circuit and the introduction of the 6L7 may have become the rage for the period it can be seen from the schematic that it probably was only used in top end receivers because of the amount of additional circuitry required, a not very efficient use of hardware. That probably contributed it its short life more than anything else.

Arden Allen KB6NAX Vallejo, CA gumbear@pacbell.net

Message-ID: <39676592.650261EB@bw.webex.net>
Date: Sat, 08 Jul 2000 13:32:02 -0400
From: Al Klase <skywaves@bw.webex.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: WTB: KY-468 Keyer
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Gentlement,

I'm in need of a KY-468/GRA-71 Keyer module to gfet my

GRA-71 in operational condition. Mine is missing some of the clockwork pieces. Any help appreciated.

73,

Al

--

Al Klase - N3FRQ

skywaves@bw.webex.net

Flemington, NJ 08822

Web Page: <http://www.webex.net/~skywaves/home.htm>

From: thompson@mindspring.com

Message-ID: <000701bfe917\$b5378ee0\$5c5a56d1@default>

To: Old Tube Radios <boatanchors@theporch.com>

Subject: Gainesville (GA) hamfest

Date: Sat, 8 Jul 2000 16:04:20 -0400

I missed the Atlanta Hamfest back in June and probably should have missed this hamfest too.

I got there about 8AM and walked through the boneyard, but it was so dark that you could barely see.

A few pieces of military gear, a HT-37 for \$125, some late Heath gear, and WA4SQR had various pieces of Drake gear including a FS-4 that sold for somewhere near \$450. The only other tube gear were several amps. \$900 asking price for a Drake L4B. \$200 for an SB-200 with no cabinet condition unknown.

At just before 10AM EDT I started helping in the ARRL booth..over the next hour we sold several dozen repeater manuals and the new Tech and General license material. We even sold some old hand logbooks...guess everyone has not gone to computer logging!

At about noon I walked through the inside and outside flea markets and many were gone but looks like except for the Drake gear most remained unsold.

maybe Shelby will be better.

73 Dave K4JRB

Message-Id: <3.0.3.32.20000708171834.00d62918@mindspring.com>

Date: Sat, 08 Jul 2000 17:18:34 -0400

To: Old Tube Radios <boatanchors@theporch.com>

From: john <johnmb@mindspring.com>

Subject: Re: 6L7 as IF tube

Cc: Old Tube Radios <boatanchors@theporch.com>

Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

At 10:25 AM 7/8/00 -0700, Arden Allen wrote:

>> The Hallicrafter SX-28 uses a 6L7 in the 1st IF.

>

>Where it functions as a noise limiter as in the other receivers mentioned.
>Whereas the Lamb Noise Silencer circuit and the introduction of the 6L7 may
>have become the rage for the period it can be seen from the schematic that
>it probably was only used in top end receivers because of the amount of
>additional circuitry required, a not very efficient use of hardware. That
>probably contributed it its short life more than anything else.

It's also the second mixer in the 75A1 I'm aligning right now

John

-----=
John Brewer - WB50AU/4
AMI #24
Clayton NC
johnmb@mindspring.com
-----=

From: Jderm740@aol.com
Message-ID: <f3.a28be1.2698fb4e@aol.com>
Date: Sat, 8 Jul 2000 17:46:54 EDT
Subject: Re: Spinners
To: Old Tube Radios <boatanchors@theporch.com>
CC: boatanchors@theporch.com
MIME-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit

Hi Bob and group

Have you tried Fair Radio. They had some spinner knobs that I think they said
were for Collins.

Jack McDermott Jderm740@aol.com

Message-ID: <3967B639.DF09284B@execpc.com>
Date: Sat, 08 Jul 2000 18:16:09 -0500
From: Joe Eide <jeide@execpc.com>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>

CC: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: 75A1 question
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

I have never seen a 75A-1 with a shield John. I have had 3 and none of them had it.

73 .. Joe - KB9R

john wrote:

> Does anyone know if the 75A1 has the finger shield on the right side
> of the cabinet (as viewed from the front.)?

From: JONWEINER@aol.com
Message-ID: <15.63d00b6.26991767@aol.com>
Date: Sat, 8 Jul 2000 19:46:47 EDT
Subject: WTT: Bird 43 Elements
To: Old Tube Radios <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit

I am looking for Bird model 43 elements 100H, 250H, 500H, 1000H & 2500H. I have several VHF & UHF elements to trade.

Jon, K1VVC

Message-ID: <39681737.D54D3D14@lenzlink.net>
Date: Sat, 08 Jul 2000 23:10:00 -0700
From: David Knepper <knepper@lenzlink.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: [Fwd: Take a Look]
Content-Type: multipart/mixed;
boundary="-----B85F24EF36452397E33B74D6"

This is a multi-part message in MIME format.

-----B85F24EF36452397E33B74D6
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

-----B85F24EF36452397E33B74D6

Content-Type: message/rfc822
Content-Transfer-Encoding: 7bit
Content-Disposition: inline

X-Mozilla-Status2: 00000000
Message-ID: <39681705.7095BD9B@lenzlink.net>
Date: Sat, 08 Jul 2000 23:09:10 -0700
From: David Knepper <knepper@lenzlink.net>
X-Mailer: Mozilla 4.61 [en] (Win98; I)
X-Accept-Language: en
MIME-Version: 1.0
To: collins@qth.net, boatanchors@listserv.com
Subject: Take a Look
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Please go to the Collins Radio Association website -
<http://www.collinsra.com>
and click on the "Collins Album" section and then on "August,2000" for
an article on "Restoring a Collins S/Line." I do hope that you find it
informative and useful. To be sure, it is not intended to be the
definitive word on such a broad and comprehensive subject. We hope to do
a follow-up article shortly.

Remember your comments and suggestions on how we can improve the CRA
website is encouraged and welcomed. Also if you have a jpeg of yourself
and your Collins equipment, please send it to me and I will have Tom
Jenkins (our webmaster) place it on the "Collins Family" section. Also
if you have Collins related parts, please send this information as well
for the "Collins Store" section.

We trust that you find something on the CRA website worthwhile and
beneficial. Your continued support and encouragement is most
appreciated. As you well can imagine, the website is a team effort by
several key individuals who are just interested in one thing - and that
is - helping each other to enjoy our Collins radios. I am sure that Mr.
Art Collins subscribed to philosophy as well.

Dave, W3ST
Secretary to the Collins Radio Association
Publisher of the Collins Journal
CRA website - www.collinsra.com

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Date: Sat, 08 Jul 2000 23:32:41 -0700
From: Arden Allen <gumbear@pacbell.net>
Subject: Product Detector for SX-110 -- Chapter I
To: Old Tube Radios <boatanchors@theporch.com>
Message-id: <0FXF004RA3IE0H@mta6.snfc21.pbi.net>
MIME-version: 1.0
Content-type: text/plain; charset=ISO-8859-1
Content-transfer-encoding: 7bit

Modiphiles;

After perusing the usual vintage amateur pubs on the subject of product detectors I concluded that, at least in my library, there is a dearth of information on critical factors to consider when designing a hollow state product detector. The three most common circuits are the triple triode, pentagrid converter and beam switching detectors. As an aside, the definition that a product detector has no output when the local oscillator (BFO) injection is absent is at best a wishy-washy assertion. Probably because nobody cares what is at the output of a product detector as long as the audio is recovered from the low pass filter without the RF causing any harm.

I looked through some real receiver circuit diagrams and after considering (to some extent) various options I locked onto the circuit used in the Drake 2A and 2B receivers. The Drakes use a 6BE6 as a self excited product detector with the BFO in the usual Heartley oscillator converter circuit. I could use a 6SA7 in the 6H6 socket and use germanium diodes for the AM detector and noise limiter (or a silicon diode for NL if germanium is too leaky).

I hacked together an octal socket on a piece of copperclad with some tie point strips to breadboard the product detector before tearing up the SX-110 chassis. I freed up the connections to the BFO coil and ran jumpers over to my 6SA7 kluge connecting the respective coil terminals as a grounded plate Heartley. The oscillator ran beautifully but after trying to make the circuit work as a decent product detector I decided that self excitation is a disastrous way to go. I wonder if and how the Drake product detector handles the problems I encountered. The oscillator signal at the grid was way too big at 40 volts p-p. Plate current was cut off most of the time and the product was a severely distorted sine wave with negative conversion gain. Also, there was enough coupling between the signal input and the oscillator that at near zero-beat the oscillator would sync to the signal. Just the phase distortion from oscillator pulling would make for lousy audio, you would probably get the infamous Donald Duck sound.

What we want is a linear transconductance modulator (as in an analog multiplier). By using an externally generated BFO with a proper injection

level to the first control grid and a reasonable amount of cathode self bias resistance I got just what I wanted. There is a decent amount of gain and low distortion, a very nice audio frequency sine wave with up to about 60 volts p-p amplitude. The dynamic range is more than adequate to drive the hell out of the audio amplifier. Here are some details: With 6 volts p-p (455KHz) at both the control grids, a 680 ohm cathode resistor bypassed with 22 uF, a 22K screen dropping (to 100 volts) resistor bypassed with 1uF, a 47K plate load and 230 volts B+ I get 40 volts p-p output. With this setup I tried several 6SA7's and a 6SA7GT (with the suppressor internally connected to the cathode) with identical results.

Luckily, the SX-110 has a half acre of free chassis space between the detector and first audio tube sockets to install a 6SN7GT dual triode BFO/buffer to drive the product detector with the correct level and good isolation. With the BFO removed from the 6SC7 that stage can be replaced with the low audio distortion mod I am planning. The next step is to make the solid state AM detector-AVC rectifier work. One step at a time....

Comments, suggestions, ridicule, all welcome. Stay tuned.

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End of BOATANCHORS Digest 2942
